

Claims

1) A unit for feeding products (6) in an ordered succession, comprising a conveyor unit (1) with pockets (43, 53) in receipt of products (6) from a dispensing device (80) and extending thence along a predetermined path (P) to a transfer station (101), an outfeed conveyor (3) by which products (6) are directed in succession and at constant pitch (p2) toward a user machine (60), and a transfer unit (2) operating between the conveyor unit (1) and the outfeed conveyor (3), characterized in that the conveyor unit (1) comprises a first belt (4) and a second belt (5) placed one beside the other and set in motion by independent drive means (M1, M2), and the pockets (43, 53) are arranged in first and second groups alternated one with another along the predetermined path (P), each comprising a given number (n) of pockets ordered at constant pitch (p1) and associated respectively with the first belt (4) and second belt (5); in that the transfer unit (2) comprises means (19) by which products (6) are ejected from the pockets and transferred at predetermined intervals to the outfeed conveyor (3), and in that the movement of the first and second belts (4, 5) is governed by a control unit (90) in such a way as to establish a predetermined phase relationship with the operating frequency of the ejection and transfer means (19).

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2) A unit as in claim 1, wherein the ejection and transfer means (19) comprise an elevating platform (19), set in motion cyclically by respective drive means (M4), such as will remove the products (6) fed  
5 by the conveyor unit (1) at a selected pitch (p1).

3) A unit as in claim 2, wherein the elevating platform (19) is capable of alternating vertical movement between a lowered first position of alignment with the conveyor unit (1) in which the  
10 products (6) are received, and a raised second position in which the products (6) are released to the outfeed conveyor (3).

4) A unit as in claim 1, wherein each pocket (43, 53) is created between a pair of mutually opposed  
15 shaped supporting elements (41, 51) secured to one respective belt (4, 5) and cantilevered in such a way as to overlap the other belt (5, 4).

5) A unit as in preceding claims, wherein the transfer unit (2) further comprises auxiliary  
20 transfer means (10, 28) operating in conjunction with the ejection and transfer means (19).

6) A unit as in claim 5, wherein the auxiliary transfer means comprise a transport belt (10) positioned, at least in the vicinity of the transfer  
25 station (101), along the predetermined path (P) and

above the platform (19) by which the products (6) are ejected from the conveyor unit (1).

7) A unit as in claim 6, wherein the transport belt (10) occupies a space (48) afforded between upright members (45) of the supporting elements (41, 51), in such a way as to advance interposed between the ejection and transfer means (19) and the products (6) during the ejection step.

8) A unit as in claim 6, wherein the transport belt (10) extends along the predetermined path (P), running parallel with and between the first and second belts (4, 5) of the conveyor unit, and raised above these same belts at least along the part of the path (P) extending between the dispensing device (80) and the entry to the transfer station (101).

9) A unit as in claims 1 to 8, wherein the conveyor unit (1) comprises a hold-down belt (28) positioned at least in the vicinity of the ejection and transfer station (101) and delimiting a passage of height substantially identical to that of the products (6).

10) A unit as in preceding claims, wherein the outfeed conveyor (3) consists in a conveyor belt (25) positioned with an initial stretch above the ejection and transfer station and presenting a succession of recesses (21) equispaced at a selected pitch (p2),

each furnished with suction means (61) serving to retain the products (6).

11) A unit as in preceding claims, wherein the motion of the auxiliary, outfeed and hold-down belts (10, 25, 28) is induced by common drive means (M3).

12) A unit as in claims 6 to 8, wherein the auxiliary belt (10) extends beyond the end of the conveyor unit (1) in the feed direction, supported slidably by a table (66), and operates in conjunction with a hold-down belt (28) positioned above the table.

13) A unit as in preceding claims, wherein at least the drive means (M1, M2) of the paired belts (4, 5) and the drive means (M4) of the elevating platform (19) are interlocked to the control means (90).

14) A unit as in claim 13, wherein the drive means (M3) of the of the auxiliary, outfeed and hold-down belts (10, 25, 28) are also interlocked to the control means (90).